Sexually-transmitted diseases

Extract from the Annual Report of the Chief Medical Officer of the Department of Health and Social Security for the year 1973

There was a disappointing increase in early syphilis in males and the total number of new cases of gonorrhoea rose despite increased contact tracing. The need for efficient STD services is clear and there has been no relaxation of effort, but staffing is a continuing problem and probably the most that can be hoped for at present is some limitation of the spread of these diseases. A design guide for clinics is being prepared as one contribution towards improving working conditions.

Critical appraisal of the results of efforts at health education continues and useful evidence has accrued from the Health Education Council's project in the London boroughs of Lambeth and Wandsworth and at St. Thomas' Hospital.

In 1973 efforts to make further improvements in the services provided to control the sexually-transmitted diseases (STD) in every region of the country have been continued. There is a particularly heavy work load in the four metropolitan regions, but this does not mean that the development of an efficient service for small towns and rural areas should be neglected. Such a service might best be provided by full-time clinics at some District General Hospitals with teams travelling to give at least a twice weekly service in out-patient space provided at other peripheral hospitals. All clinics should provide facilities for both male and female patients concurrently since this is often desirable and is more convenient for couples who are attending a clinic together for counselling and treatment.

There has been a disappointing increase in early syphilis in males, which appears to have been largely due to infected male homosexuals and has occurred most markedly in the N.W. and S.W. Metropolitan Regions and in the Birmingham and Coventry areas. It is a warning sign that syphilis control should in no way be slackened or run down. The figures for gonorrhoea have also shown some increase and are back to the 1971 level. Although this may be due in

part to the increase in the number of symptomless females brought to the clinic by contact action, it is also further proof that this measure alone, however well applied, will fail to control this disease. Other STDs still remain unchecked and the continued increase in non-specific genital infections indicates that research efforts in the isolation of *Chlamydia* must continue to be supported until simpler and more accurate diagnostic techniques are available in the laboratories serving all the major clinics.

The increase in STD in England should always be considered in relation to trends in other countries. The main index continues to be the case numbers per 100,000 of population for early syphilis and gonorrhoea in countries with reasonably reliable notification systems. The rate in England for early infectious syphilis was 2.6 in 1972 and 3.3 in 1973, compared with 11.7 and 12.1 respectively in the U.S.A., and the rate in England for gonorrhoea was 115.3 in 1972 and 126.5 in 1973, compared with 349.7 and 392.2 respectively in the U.S.A.

Syphilis

Early syphilis comprises the primary, secondary, and early latent stages. In 1973 there were 2,133 cases, 1,802 in males (a marked increase over the 1972 figure of 1,350) and 331 in females (297 in 1972), giving a combined incidence of 4.59 per 100,000 population compared with 3.56 in 1972 (Table I). The male: female ratio in 1973 was 5.4: 1 compared with 4.5:1 in 1972. If the latent cases are excluded, then the total of early infectious syphilis for 1973 was 1,513 cases, 1,298 in men and 215 in women, giving a combined incidence of 3.26 per 100,000 population compared with 2.56 in 1972. The male: female ratio in 1973 was 6.0: 1 compared with 5.5: 1 in 1972. Analysis of clinic returns reveals that much of the increase in early syphilis occurred in a few clinics only and, from enquiries made at these clinics, it is clear that this increase was mainly in male homosexuals.

Information was obtained from the clinics on the numbers of cases of early infectious syphilis believed to have been contracted (a) in the United Kingdom

^{&#}x27;On the State of The Public Health' (1974). Report of the Department of Health and Social Security for the year 1973, pp. 3 and 48. Her Majesty's Stationery Office, London.

and (b) abroad. The totals were (a) 1,210 (80.0 per cent.) and (b) 239 (15.8 per cent.) respectively with 64 (4.2 per cent.) not known. In 1972, 16.2 per cent. of infections were contracted abroad.

The age breakdown for cases of early infectious syphilis per 100,000 population is shown in Table I. The distribution is similar to that of previous years with the highest incidence in the 20 to 24-year age group (both sexes) at 10.07 compared with 8.49 in 1972.

During 1973, contact action was taken on 1,690 cases of syphilis (1,419 males and 271 females). This resulted in the attendance of 1,104 contacts (784 males and 320 females); of these, 258 males and 112 females were found to have syphilis.

Cases of late syphilis (all forms) rose slightly from 1,159 in 1972 to 1,171 in 1973, an incidence of 2.52 per 100,000 population. In 1973 there were 76 cases of cardiovascular syphilis (47 in men and 29 in women) compared with 84 in 1972. The 1973 figures for neurosyphilis were 144 (105 in men and 39 in women) compared with 155 in 1972. There were 951 cases at all other late and latent stages, 642 men and 309 women. Unpublished figures for 1973 (Office of Population Censuses and Surveys) recorded deaths in five men and two women with general paralysis of the insane, in eight men and seven women with tabes dorsalis, and in fifteen men and thirteen women with syphilitic aortic aneurysm.

The number of new cases of treponemal diseases presumed to be non-syphilitic showed a small increase. In 1973 there were 864 cases reported from the clinics, giving an incidence of 1.86 per 100,000 population, compared with 1.84 in 1972 (Table II), when the number was 853.

The total figure for all congenital infections was 163 compared with 159 in 1972, an incidence of 0.35 per 100,000 population, compared with 0.34 in 1972 (Table I). There were nine infections in children under the age of 2 years (15 in 1972). This is a low incidence but since blood is taken for other tests in pregnancy a test to exclude syphilis is still justified as a routine in antenatal care. Table 3 does not include figures from London, so it is of interest that a survey by Hare (1973) on the antenatal screening for treponemal disease at Queen Charlotte's

Maternity Hospital, London, over a period of 10 years showed that 3.9 per 1,000 patients booked for confinement had had previously undiagnosed treponemal infections.

The number of tests giving a positive result at five regional centres (Table III), although remaining low, shows increases in some centres, and altogether 81 pregnant women were found to be positive (52 in 1972). These figures emphasize the importance of continuing antenatal testing.

Gonorrhoea

The increase in the total number of new cases was resumed after the fall in 1972, so that the figure is close to that of 1971. There were 58,645 cases, an increase over 1972 of 9.7 per cent. New cases in males numbered 37,833 (7.9 per cent. more than in 1972) and 20,812 in females (13.2 per cent. more than in 1972). The post-pubertal figures were 58,557 (37,803 in men and 20,754 in women); the incidence per 100,000 population was 126·10 overall (167·40 in men and 87.04 in women), compared with 115.28, 155.64, and 77.10 respectively in 1972 (Table I). The male: female case ratio was 1.8:1; in 1972 it was 1.9:1. The prepubertal cases numbered 88: comprising 31 of vulvovaginitis, two of urethritis, and 55 of gonococcal opthalmia; the figures for 1972 were 31, 3, and 31 respectively.

Information obtained from the clinics on the age breakdown in cases of post-pubertal gonorrhoea per 100,000 of population (Table I) showed an incidence of 602·41 in the 20 to 24-year age group, 606·44 in the 18 and 19-year age group, 283·59 in the 16 and 17-year age group, and 5·24 under 16 years, compared with 93·08 in the over 25-year age group; the respective rates for 1972 were 535·40, 530·40, 251·24, 4·52, and 86·61.

Infections in persons under 16 years of age occurred in 151 boys and 458 girls in 1973 compared with 109 boys and 420 girls in 1972. The incidence of new cases per 100,000 population was 2.53 in boys, compared with 8.09 in girls in this age group. (Table I). The number of cases in boys aged 16 to 19 was 4,670 compared with 4,141 in 1972, and the number in girls of that age 6,629 compared with

TABLE III Serological tests for treponemal disease in pregnancy, 1973

	Number of ante	enatal patients	tested	Positive t	reponemal tests				
Centre			.	Primipar	ae	Multipa	rae	Parity	not known
	Primiparae	Multiparae	Parity not known	No.	Per cent.	No.	Per cent.	No.	Per cent.
Cambridge	11,303	12,142	633	14	0.124	19	0.156		
Leeds	10,731	20,428	1,863	4	0.037	15	0.073		_
Liverpool	20,809	23,089	_		_			_	_
Oxford	5,939	4,903	744	5	0.084	1	0.020	1	0.134
Sheffield	22,463	11,012	_	8	0.036	15	0.136	_	_

TABLE 1 The venereal diseases—new cases per 100,000 population, by age and sex, seen at hospital clinics in England, 1969-73

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Year	1969			1970			1971			1972			1973		
Sex	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Early syphilis All ages	5.86	1.28	3.51	5.82	1:11	3.42	5.67	1.42	3.48	00.9	1.25	3.56	7.98	1.39	4.59
Early syphilis (primary and secondary only) All ages	4.43	0.87	2.60	4.21	77.0	2.42	4.11	68·0	2.46	4.46	22.0	2.56	5.75	06:0	3.26
Under 16	0.03 9.03	0.05 20.05	0.04 3.14	0.03 2.21	0.03	0.03 1.92	0.05 2.64	0.07	0.06 2.23	0.02 3.84	0·12 1·45	0.07 2.67	9.02 3.02	0.04 2.06	0.07 2.56
18 and 19	9.37	6.19	7.79	5.98	4.32	5.16	7.97	5.17	6.9	7-47	4.32	5.93	9.6	4.24	66.9
20-24	14.35	3.22	8.82	13.51	3.69	8.62	13.80	3.64	8.75	13.09	3.83	8:49	15.52	4:51	10·07 3·64
25 and over	4.8/	00.0	60.7	4.14	66.0	16.7	4.33	70.0	64.7	#7. C	6F .0	0.4	3	3	5
Late syphilis All ages	3.75	2.45	3.08	4.00	2.07	3.01	3.79	1.55	2.64	3.40	1.66	2.50	3.52	1.58	2.52
Congenital syphilis All ages	0.38	0.61	0-50	0.32	0.45	0.39	0.38	0.49	0.44	0.29	0.40	0.34	0.27	0.43	0.35
Gonorrhoea (post-pubertal) All ages Under 16 16 and 17 20-24 25 and over	158·34 1·36 131·11 466·05 625·86 151·23	60.84 6.22 248.64 412.36 290.25 31.49	108·26 3·73 188·64 439·31 458·98 88·00	164·31 1·35 143·23 503·69 643·41 156·75	69.69 7.01 316.00 508.25 331.95	115.72 4·11 228·13 505·95 488·53 91·91	169-26 2-15 161-37 523-91 683-29 159-26	75.90 7.03 348.62 558.80 370.08	121.26 4.53 252.47 541.06 527.46 94.30	155·64 1·81 144·61 487·50 675·71 143·15	77·10 7·36 362·92 575·43 393·06 36·26	115·28 4·52 251·24 530·40 535·40 86·61	167·40 2·53 167·40 551·55 751·15	87.04 8.09 405.56 664.28 450.75 41.61	126·10 5·24 283·59 606·44 602·41 93·08
Chancroid All ages	0.24	0.01	0.12	0.20	0.01	0.10	0.22	0.02	0.12	0.21	0.01	0.11	0.15	0.01	80-0

TABLE 11 Other sexually-transmitted diseases and other conditions—new cases per 100,000 population at all ages and by sex seen at hospital clinics in England, 1969-1973

Year	1969			1970			1971			1972			1973		
Sex	Male	Female	Total												
I.vmphogranuloma venereum	0.13	0.02	0.02			80.0	0.50		0.10		0.02		0.23	0.03	0.13
Granuloma inguinale	0.01	1	0.01		I	0.01	0.02		0.01		0.01		0.02	0.01	0.02
Non-specific genital infection	178.20	1	ı		l	1	263.55		157-13		60.61		301.70	62.54	178·80
with arthritis	1.61	1	ı		l	l	1.88		86.0		0.10		1.93	0.08	86-0
Trichomoniasis	İ	I	ı		61.00	34.12	2.80		40.59		73.38		7.16	73.48	41.22
Candidiasis	I	ı	ŀ		1	1	12.86		52.98		107.16		21.66	113.20	89.89
Scabies	l	I	ŀ		1	ı	11.29		7.08		2.25		9:36	1.90	5.53
Public lice (pediculosis pubis)	١	!	I		1	1	13.71		8.80		4.50		13.97	4.73	9.23
Herpes simplex	i	ı	ı		ı	1	12.22		96.		5.31		14.71	6.48	10.48
Warts (condylomata											:	!	;	;	
acuminata)	ı	١	ı		ı	l	39.81	20.32	29.79	45.54	23:42	34.17	51.19	26.48	38.50
Molluscum contagiosum	I	I	ŀ		ı	ı	1.66	09.0	1.12	2.03	0.74	1.37	2.13	0.74	1.42
Other treponemal diseases	2.20	1.45	1.82	2.28	1.38	1.81	2.42	1.18	1.78	2.55	1.17	1.84	2.43	1.32	1.86
Other conditions							;	,	,	101	000	66.03	01.11	00.44	76.67
Requiring treatment	ı	ı	1	 	1	; [45.4	30.06	96.50	68:101	26.66	71.60	01.111	30,70	1007
Not requiring treatment	162.67	85.28	123.08	167-37	89.70	127.48	199.66	103-59	150.27	208-90	61.011	81.801	07.007	06.071	06.671

5,854 in 1972. The incidence of new cases per 100,000 population (Table I) in boys was 167.40 for the 16 and 17-year age group and 551.55 for the 18 and 19-year age group, and in girls it was 405.56 for the 16 and 17-year age group and 664.28 for the 18 and 19-year age group.

Information was obtained from the clinics on the numbers of post-pubertal cases of gonorrhoea believed to have been contracted abroad. In 1973 the figure was 1,872 (3.2 per cent. of the total of 58,557); in 1972 the equivalent percentage was 3.5 per cent.

During 1973 contact action was taken on 37,916 cases of gonorrhoea (28,833 males and 9,083 females). This resulted in the attendance of 22,566 contacts (8,404 males and 14,162 females); of these, 4,808 males and 10,477 females were found to have gonorrhoea.

Chancroid

This disease remains a minor problem in England. There were 36 new cases reported in 1973, compared with 49 in 1972. This gives an incidence of 0.08 per 100,000 population, compared with 0.11 in 1972 (Table I).

Other sexually-transmitted diseases

Lymphogranuloma venereum and granuloma inguinale These diseases continue to be rare in England. In 1973 there were 59 cases of lymphogranuloma venereum, the same number as in 1972. The incidence per 100,000 population was 0·13. There were eight new cases of granuloma inguinale (5 in 1972). The incidence was 0·02 per 100,000 population (Table II).

Non-specific genital infection

Research on the causative agent or agents of this group continues to be supported by the Department. It is becoming apparent that *Chlamydia* (Group A) causes a majority of these infections. In 1973 there were 83,051 cases (68,139 in men and 14,912 in women); the 1972 figures were 76,916, 62,498, and 14,418 respectively. In 1973 the incidence was 178.80 per 100,000 population (301.70 in men and 62.54 in women). The 1972 rates were 166.13, 277.65, and 60.61 respectively (Table II). There were 435 cases of non-specific urethritis with arthritis in males and nineteen in females in 1973, compared with 447 cases in males and 23 cases in females in 1972.

Trichomoniasis

There were 1,617 male cases and 17,522 female cases reported from the clinics in 1973; the figures for 1972 were 1,535 and 17,456 respectively.

Candidiasis

There were 4,893 male cases and 26,993 female cases in 1973, a total of 31,886; for 1972 the figures were 4,353, 25,491, and 29,844. (For incidence rates, see Table II).

Scabies and pediculosis pubis

In 1973, 2,568 cases of scabies were reported from the clinics (2,114 in men and 454 in women) compared with the 1972 figures of 2,771, 2,235, and 536. There were 4,285 cases of pediculosis pubis (3,157 in men and 1,128 in women) compared with the 1972 figures of 4,099, 3,028, and 1,071. (For incidence rates, see Table II).

Genital herpes, genital warts, and genital molluscum

There were 4,869 cases of genital herpes recorded at the clinics in 1973, 3,323 in men and 1,546 in women (in 1972 the figures were 4,380, 3,116, and 1,264), 17,876 cases of genital warts, 11,560 in men and 6,316 in women (in 1972 the figures were 15,820, 10,250, and 5,570), and 659 cases of genital molluscum, 482 in men and 177 in women (in 1972 the figures were 634, 457, and 177). (For incidence rates, see Table II).

Other conditions

The 1973 total for other conditions requiring treatment was 35,595 (25,103 cases in men and 10,492 cases in women). The incidence was 76.67 per 100,000 population (111.10 in men and 44.00 in women), the comparable rates for 1972 being 69.72, 101.85, and 39.32 respectively.

Cases included under the heading 'conditions requiring no treatment at the clinic' numbered 83,351 (53,229 males and 30,122 females).

The present position

The upgrading of clinics continues and plans for new clinics are going ahead. The new Design Guide, when issued, will assist in clinic planning activities. A number of meetings on this subject have taken place this year with the aid and advice of representatives of the Medical Society for the Study of Venereal Diseases and the final draft of the guide is nearing completion. It will include general planning principles, organization, layout and content of clinics, an engineering and costing section, and useful appendices on work flow. All those concerned should plan which of the new District General Hospitals will need full-time clinics and which will have to allocate time and space for part-time clinics within their out-patient area in order to give all Regions a full STD service. The importance of establishing a University Chair in the subject is accepted. The Academic Board of the Middlesex

Hospital Medical School has now agreed that a Chair in Sexually-Transmitted Diseases should be created when suitable funds can be found to finance it. It is not known when this will be. Venereology is a shortage specialty and efforts continue to be made to expand the medical establishment of clinics by the appointment of new consultants.

Additional new Senior Registrar and supplementary Registrar posts have been approved. sharing of Senior Registrar appointments between teaching and non-teaching hospital clinics is often to the advantage of both, and some of the supplementary Registrars appointed have been greatly helped in studying for and obtaining higher medical qualifications by working for some sessions in general medicine at their hospitals. Committee on Higher Medical Training of the Royal College of Physicians has devised a training programme for venereology and is preparing to send representatives to visit clinics to assess their suitability for postgraduate training.

As a result of the work of the Joint Board of Clinical Nursing Studies, two courses, each of 6 months' duration, started in 1973, one in London (at the London Hospital) and one in Sheffield (at the Sheffield Royal Infirmary), as predicted in last year's report. The nursing profession and physicians in charge of clinics should ensure that an adequate number of applicants (SRN and SEN) of suitable calibre come forward to replace those clinic nurses who retire. It is encouraging that a further course in London (at the Middlesex Hospital) and a second provisional course at Birmingham have been approved for next year. The appointment to the Department of a part-time Nursing Adviser on STD is welcome.

Research projects promoted by the Medical Research Council, by the World Health Organization (WHO), and by the Department have resulted in some advance in knowledge concerning the significance of immunoglobulins in the diagnosis of treponemal diseases, in the development of serological tests for gonorrhoea, and of simpler methods of testing for Chlamydia organisms which are now established as a main cause of non-specific genital infection. The Department has also continued to finance travel abroad for medical, nursing, and other staff in the STD service to enable them to benefit from the experience of visiting selected research centres and clinics. WHO has now published (WHO/VDT/73.386) the report of the International Travelling Seminar on Venereal Disease in the United States in which two British consultants participated. This report indicates that the rising trends in incidence of both syphilis and gonorrhoea in the USA have been caused by medical, social, and behavioural factors operating in modern society which are likely to lead to a further increase in

prevalence there and in other countries throughout the world. It also states that epidemiological and other methods have failed to control the spread of these diseases. There is an urgent need in the U.S.A. for physicians with special training in STD to be in charge of clinics and responsible for undergraduate and postgraduate education in the subject. This situation emphasizes the foresight of those who have developed venereal disease services in the United Kingdom over the last half-century. The Medical Research Council has formed a sub-Committee on the epidemiology of STD which had its first meeting towards the end of the year and will meet again early in 1974.

The Health Education Council project in the London Boroughs of Lambeth and Wandsworth and at St. Thomas' Hospital is nearing its end (31.3.74). The survey of knowledge among young people appeared to show that the general level of knowledge of symptomatology, mode of spread, and sources of treatment for the sexually-transmitted disorders, while it could be improved, is reasonably adequate. The level of knowledge was highest among those in the group at highest risk, some of whom had been infected; but such knowledge, while it seems to be fairly effective in inducing such individuals to seek treatment, does not appear to act as a deterrent to promiscuous sexual behaviour. The survey of clinic patients demonstrated that the incidence of gonorrhoea varies enormously in different groups of the population. The groups at risk in this series were young people, especially those with social problems, between the ages of 18 and 30 years, homosexuals, and immigrants, especially West Indians. A clinic survey carried out elsewhere might well reveal other groups. Those clinic attenders who came as a result of contact tracing represented the highest risk group, with up to 90 per cent. infected. From these two sets of findings the inference may be drawn that mass media health education efforts directed at whole population groups are both wasteful and unlikely to achieve critical behaviour change in the groups at risk. It is for consideration that such efforts among adults should comprise (a) concentration on the identified groups at risk, (b) informing them about the symptomatology of the sexually-transmitted diseases, where to get treatment, and the need to persist with treatment, and (c) securing maximum co-operation in contact tracing. These suggestions do not imply the abandonment of school health education efforts directed against these diseases. On the contrary, children require knowledge, in a general sense, of the sexual mode of spread of disease. Finally, there are other health education measures to consider. The recorded message telephone answering service may prove a valuable addition to other means of publicity. Within the clinic the interview with the Health

Worker (contact tracing) includes a health education element, and the Medical Social Worker gives a counselling service which can include family planning and referral. A new project sponsored by the Health Education Council, which will start in the next financial year, will study further the role of the Health Worker and the techniques of contact tracing in a number of selected clinics. Should other preventive measures, such as the promotion of use of the condom in casual sexual contact, be thought advisable, effective health education among the groups at risk would be of great importance.

In addition to the progress made by the HEC Research Officers (a) in defining the role of the Health Worker in contact tracing and (b) in formulating printed patient and contact cards to facilitate data collection at St. Thomas' Hospital, the routine work of interviewing for the tracing and bringing in of contacts for examination has continued. This type of work is being done in increasing numbers of clinics in England, where staff has been provided for this purpose, but not as yet in all. The Society of Social Workers in Venereology, which the Health Workers have formed, holds regular meetings where papers are presented and technical problems discussed.

Data collected in 1972 concerning general practitioners in the London Boroughs of Lambeth and Wandsworth have continued to accumulate. By the end of 1973 the use made by G.P.s of the diagnostic kit with which they were supplied had resulted in the examination at St. Thomas' Hospital of twenty specimens in men and eighteen specimens in women; evidence of gonorrhoea had been found only in six men (from three doctors) but in no female patients. These positive results were reported by telephone to the doctors concerned, and contact tracing facilities were offered. During the same period 154 men and 42 women with gonorrhoea were referred direct to the same clinic by G.P.s in these Boroughs. The proportion of patients referred to clinics for STD obviously varies in different parts of the country. Heywood and Bacon (1973) reported that in North Humberside the proportion of syphilis, gonorrhoea, and non-gonococcal urethritis treated outside the clinics was unlikely to have exceeded 20 per cent. of all cases treated in the area.

Evidence to support the belief that the great majority of cases in the Lambeth-Wandsworth area were reaching the clinic was obtained from the finding that gonococci were isolated in only four (0.26 per cent.) out of 1,515 pregnant women examined during a special study at the same hospital (Hyatt and Phillips, 1973, personal communication). In the Newcastle area, where contact tracing activity is also at a high level, Silverstone, Snodgrass, and Wigfield (1974) have recently reported that a screening survey of 370 female patients in an obstetric and gynaecological unit revealed only one with proven gonorrhoea.

The report of the Working Party on Venereal Diseases has now been completed and accepted with minor modifications by the Public Health Committee of the Council of Europe. As a result, a draft resolution on the control of STD will go to the Committee of Ministers for ratification early next year. It is hoped that member states will then take account of the definitions, principles, and practices outlined in the report, which will be published in due course. This report emphasizes the importance of harmonization with the technical policies of the World Health Organization. It is encouraging that WHO, following a statement by the Director General, is taking an increasing interest in STD control and has adopted this subject for the Technical Discussions in Geneva in 1975. In addition, the European Office of WHO is planning a Symposium on STD, including behavioural aspects, to be held in 1977. The present year has also seen progress towards recognition by the Monospecialty Committee on Dermato-Venereology of the European Union of Medical Specialists that STD as a subject should be separated from dermatology, as it is in the United Kingdom.

References

HARE, M. J. (1973) J. Obstet. Gynaec. Brit. Cwlth, 80, 515
 HEYWOOD, C. P., and BACON, P. M. (1973) Brit. J. vener.
 Dis., 49, 540

Hyatt, D., and Phillips, I. (1973) Personal communication Silverstone, P. I., Snodgrass, C. A., and Wigfield, A. S. (1974) Brit. J. vener. Dis., 50, 53

WORLD HEALTH ORGANIZATION (WHO/VDT/73. 386)